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Vital Statistics of Calcutta. By DR. CUTHBERT FINCH.

[Read before the Statistical Section of the British Association for the Advancement of Science, August, 1848.]

At a time when the sanatory condition of the growing cities of Britain is justly occupying so much and such anxious attention, a view, as complete as it can be rendered, of that of the great city which forms the capital of its Eastern empire, will not be without interest and instruction.

Calcutta stands on the left bank of the Hoogly, a principal branch of the Ganges, but a few feet above high-water-mark, and shelves away almost imperceptibly towards the east, where it is some feet below the level of the sea. The progress of the modern city has been rapid: from being an insignificant collection of straggling houses around a fortified factory, whose existence was precarious, dependent on the capricious will of an Oriental despot, threatened and endangered by the influence of jealous and powerful rivals, it has become in less than a century the most populous and magnificent city in Asia, the emporium of the East, and the capital of an Empire bounded only by physical barriers, the Himalayan mountains on the north, and the Indian ocean on the south.

The modern city is not of uniform appearance: it is distinctly divided into two parts; the one may be called the southern or European, the other the northern or Native portion. These are dissimilar in their general plan, in the appearance of the streets and the structure of the houses, and are characterized by different races of inhabitants.

The southern division is distinguished by greater regularity, wider streets, and detached buildings, and is inhabited by Europeans or their descendants.

The northern has the appearance of a dense accumulation of houses and huts, of narrow lanes and alleys, and interminable bazaars, and is almost exclusively occupied by Asiatics, Hindoos, and Musselmans.

The southern part, consisting as it does in a great measure of detached villa residences, surrounded by gardens or court-yards, is not populous for the extent of ground it covers.

From its structure, the northern part of Calcutta is by far the most populous, and, like most Eastern cities, it contains a very dense population for its extent.

There is a vast difference in the appearance and structure of the houses in the European and native portions of the city. The residences of the former are large, isolated, and lofty, exhibiting considerable architectural taste and variety. They are in general of three stories, and, the rooms being lofty, they are high; they are flat-roofed and surmounted with balustrades, which, with the exterior coating of white plaster, adds much to their beauty.

There are two descriptions of dwellings occupied by the native inhabitants; the one belonging to the wealthier class, whether land-owners or Zemindars, traders or employes in public or commercial offices, and that pertaining to the lower class of shop-keepers and operatives.

In the houses of the first class, there is a close similarity in plan, though varying much in size and extent. They are constructed in the form of a hollow square, the exterior of the four sides having but few apertures for air and light, and these in general small, barred, and without glass, with a view to privacy and security. With the interior or open space in the centre, numerous doors and windows communicate. They are in general of two stories, but the apartments being low, the houses are of no great height; in this, however, they vary, some being considerably higher than others, indicating the greater wealth of the occupants. The upper apartments are occupied by the family of the tenant or owner, and the lower by retainers and servants, except the northern side of the houses of Hindoos, which is the family place of worship, the abode of their idols, and denominated the Thakoor-Khanna.

The other description of dwellings of the natives includes huts of two kinds, the one built of mud and covered with tiles, the other constructed of more flimsy materials, the walls being formed of mats, and the roofs of thatch. These last shelter the indigent and lowest class of the native population, and are subject to frequent destruction by fire. In consequence of the frequency and extent of fires, and the danger of communication to the better class of dwellings, a regulation was enacted in 1835, by the municipal authorities, that every hut should in future be tiled, and attention to this judicious rule was strictly enforced for some time. Accordingly, there was a considerable reduction in this class of dwellings, as they were swept away by fires, the more substantial dwellings were erected in their stead, and in the course of a short time, through the same destructive agency and the progress of decay, it was anticipated that this dangerous description of abode would be unknown in Calcutta; but, owing to remissness on the part of those entrusted with the duty of enforcing the observance of this regulation, and the eagerness of the natives to take advantage of this want of vigilance, they have reverted to the forbidden and dangerous mode of thatching their huts, which renders the native portion of the city the scene of frequent conflagrations during the hot and cold months.

The number of this description of dwellings has been variously estimated. Three censuses have been made at different periods for the purpose of levying a house-tax, in 1793, 1822, and 1837.

The return of the assessors of house-tax in 1837, is as follows:—

Brick-built Houses, upper-roomed	6,376
Brick-built Houses, lower-roomed	4,839
Warehouses	1,439
Shops	4,786
	<hr/>
	17,440
Tiled Huts	15,042
Shops	1,545
Straw Huts	30,077
Shops	1,385
	<hr/>
Total	65,489

If we compare this return with those of earlier date, there would seem to be a considerable decrease in the number of houses at each subsequent period, at which they were made. The grand total of the

return of 1793 gives us 74,760 premises or dwellings of every description, while that of 1822 estimates the total number at 67,519, which only amounted to 65,489 in 1837, a reduction of upwards of 2,000 by the latest return.

The explanation of the cause of this decrease in the number of houses of every description is to be found in the increase of those occupied by the more wealthy classes of the inhabitants, especially Europeans, and the erection of houses for their accommodation, which, occupying a larger space of ground, have displaced a greater number of native dwellings and huts, and this substitution or change is still going on in Calcutta, as the comparison of the number of houses of each description in these returns sufficiently proves. There were in 1822, brick-built tenements of every kind, but 14,230; in 1837, the assessors of house-tax return 17,440 brick-built houses, godowns, and shops, shewing an increase of upwards of 3,000. Between 1822 and 1837 there was an addition of 795 tiled houses, while in the same interval there had been a great reduction in the inferior description of dwellings.

During the same period, there had been a considerable diminution of straw huts. There were in 1822, 37,497 straw huts; in 1837 the return by the assessors of house-tax gives us but 31,462 of these wretched huts, a diminution of upwards of 6,000, while the return of the superintendent of police makes the decrease nearly 7,000.

By far the greatest portion of the inhabitants consist of the two great families of Asiatic origin, Hindoos and Mahomedans; the former being indigenous to the soil, the latter being naturalised in the course of centuries, and do not equal in numbers a moiety of the Hindoos.

The whole of the native portion of the population is not indigenous to the city, or even to the surrounding country.

Of the Musselman inhabitants very many are natives of Hindustan, or Upper India, who come to Calcutta in search of employment, or in the prosecution of their occupations as merchants and traders; many of them settle permanently in the greatest mart of the East. Being in general more courageous and of more powerful frame than the Hindoos, a numerous body of Musselmen find employment in the service both of the European and more wealthy Hindoo residents of Calcutta, as watchmen or retainers.

The Mahomedan population of the city is divisible into two classes, the Western, and Bengal Mahomedans; the former, it has been said, may be regarded as temporary residents, while the latter are to be counted among the permanent inhabitants of Calcutta.

Neither does Calcutta recruit its Hindoo population from the surrounding country, or Bengal. There is a constant influx of the worshippers of Brahma from Behar and Hindoostan, drawn thither in the train of commerce; these form no inconsiderable portion of the Hindoo community; there is also a constant accession to the city population of Hindoo inhabitants, natives of Bengal, both from the inland towns and villages of Bengal, candidates for public employment, or suitors for domestic service.

But by far the largest portion of the population is composed of the indigenous inhabitants of the city, forming the bulk of the native community. These are engaged in the different departments of trade and commerce; they are the occupiers of bazaar-stalls and workshops;

numbers of the higher castes find occupation in the public offices, or at the desks of merchants, and many of the lower castes as menials to the other classes already enumerated.

It has been computed that the amount of daily addition to the city is at least 175,000, and is roughly estimated at double that above mentioned, or equal to 200,000.

The next class of importance in point of numbers, is the Europeans and their descendants; the former chiefly from the parent country, the United Kingdom, a large proportion of them being the covenanted servants of the Company; the number of them is but small even after the lapse of a century, and does not exceed 3,000. This is of easy explanation, if we regard their migratory character, their pursuits, the object of their residence, and the effects of a climate hostile to these exotic races.

The ever-varying European population of the Eastern capital regard their residence in Calcutta but as temporary, and form but an integral portion of its inhabitants for as short a period as possible, their object being wealth: when that is attained, they return to Europe, their pursuits being commercial or departmental, which in general are lucrative, so much so as to enable them to retire early, or after a short stay in Calcutta; others again are compelled by the deleterious influence of the climate to seek a more salubrious residence. The number of Europeans whose departure is compulsory, is not inconsiderable, and accounts for their small proportion to the Indian races or Asiatic residents.

There is another and very influential cause for the disproportion of the European and native portion of the inhabitants of Calcutta, in the restriction to the increase of the European population in India. It has been stated that the unmixed European race cannot survive to the third degree in the East. A similar fatality does not affect the children of the mixed race, the descendants of Europeans and natives; they survive, but become dwarfish and effeminate. By intermarriage, they greatly deteriorate in mental and physical powers, and possess not in the first remove from their parent stock, the strength or make of either race; they partake more in colour and constitution with their native mother, Hindoo or Musselmanee. Whether this conformation or constitution is dependent on the sex of the parent it is difficult to determine, as there are too few instances of the offspring of a mixed race of native father by European mother, to enable us to institute a comparison with the view of determining this point. This class, or the issue of European and native, has been designated Eurasians, in preference to the invidious and objectionable term of half-castes; their number is considerable.

Next in point of numbers to the English and their descendants are the Portuguese, whose number is 3,181. They were the first European adventurers who colonised Bengal. However numerous they may have been in other parts of the Indian continent, it does not appear that their numbers were actually greater at any time than they are now. It must be remembered that the portion of the population under this name are the descendants of Portuguese; very few of them are of pure and unmixed Portuguese origin, and born in the parent country; they are not now an imported or exotic race.

Of the Portuguese population, some are distinguished by their great opulence acquired in commerce. They do not associate with other sections of the inhabitants of Calcutta, being held in unmerited contempt by the other classes of this motley population; they are equally contemned by their European and Asiatic fellow-citizens. Of all the European nations, the Portuguese have amalgamated most with the natives of India, and their offspring born in the country thrive better than the issue of any other Europeans, but these have much degenerated from the followers of Vasco de Gama and Albuquerque.

The Armenians form a small section of the population, not exceeding 636. On the establishment of Calcutta in 1689, the Armenians accepted the invitation which had been given to them in common with the Portuguese, by the founder of the ancient colony, to settle and place themselves under the protection of the English, and were permitted to build a temporary church and consecrate a burial-ground. To render this connexion more intimate and durable, the Armenians received considerable encouragement, and privileges conferred on them by charter, given under the Company's seal, and bearing date June 22nd, 1688.

The few French residents are European merchants and their families and dependents, and in general make a temporary residence in Calcutta. The greater number of that nation in Bengal reside at their settlement at Chandernagore, or in the provinces, engaged in the cultivation of indigo.

The Chinese inhabitants of Calcutta are handicraftsmen, as shoemakers, carpenters, joiners, &c., in which their superiority over the natives, or Hindoos, insures them ample profits and employment; though not very abstemious, they are very industrious.

In 1837 an estimate was made with great care (one regarded as a very accurate return) of the population of Calcutta, by the assessors of house-tax, and furnished to Captain Birch, the Superintendent of Police. Its results are as follows:—

English	3,138
Eurasians, or the offspring of the European and Asiatic.....	4,746
Portuguese	3,181
French	160
Chinamen	362
Armenians	636
Jews	307
Western Mahomedans	13,677
Bengal Mahomedans	45,067
Western Hindoos	17,333
Bengal Hindoos	120,318
Moguls	527
Parsees	40
Arabs	351
Mugs	683
Madrassees	55
Native Christians	49
Low Castes.....	19,084
	<hr/>
	229,714
The population of the suburbs said to be	200,000
	<hr/>
Making a total of	429,714

By means of the same agents, and with the same care and supervision, another and the latest census was made in 1843, when it was found that the native population was somewhat less than in 1837.

There are two peculiarities in the character of the population of Calcutta.

There is a great excess of adults, and the population is stationary.

Strangers are always struck with the paucity of children and the small number of old men to be seen in the streets and about the houses of Calcutta. This peculiarity is referrible to the floating and migratory character of the people. It has been already stated that a great majority of the Hindoo day-labourers have their homesteads in the surrounding villages, and on the opposite side of the river, which they leave in the morning and return to at sunset. The other characteristic is ascertained by the comparison of the latest returns of 1837 and 1843, and this also is to be explained by a reference to the habits of a large portion of the inhabitants of the town.

In the absence of an office registry of deaths, recourse has been had to the agency of the native Superintendents of Police, styled Thannadars, who have under their control a numerous body of subordinate police, peons, or constables. These officials or Thannadars being brought up in connexion with the department, and selected from the general body, on account of their good character, activity, and intelligence, are in general well acquainted with the circumstances, social and domestic, of the inhabitants residing under their daily observation, and within their districts or stations.

They possess accordingly pretty accurate information relating to the actual amount of the living population in their neighbourhood or sub-division of the city, the proportion of the sexes, the number of children, and the occurrence of births and deaths in families.

The accuracy of their information, in reference to native deaths, it is believed may be relied upon, since the nature of the climate compels the almost immediate removal of the corpse from their dwellings, and of the miserable and indigent, who die in the streets and bye-ways, the police alone take any cognizance.

The only registry of native funerals is that kept by the police authorities at the different Ghauts and Ghoristans, where only the funeral rites of cremation and sepulture of the Hindoo and Musselman sections of the community are permitted.

This system of Registry has been in existence since 1802, the date of its introduction by one of the present magistrates of the city, Mr. Blacquiere.

The original records are written in Bengalee, and state in tabular detail, the name, age, sex, caste, residence, occupation, disease, duration of sickness, &c., of the deceased.

The translated official copies of these reports enumerate, however, only the actual number of bodies "burnt" or "floated at the Ghauts, or buried in the Ghoristans, and are curtailed of much of the valuable information contained in the original documents; for instance, the mortal diseases are roughly classed under three heads, viz., cholera, supposed to be the chief scourge of the population, small-pox, said to be the second, and miscellaneous diseases include the residue. This is the more to be regretted, as no care is bestowed on the preservation

of the original records, and the tabular statements of mortality published to the world are taken from the curtailed translations.

The latest attempt to form an estimate of the mortality of the capital of Bengal has been made by Mr. Martin, in his topography of the city, first published in India, in 1837, and subsequently incorporated in the joint production of Drs. Johnson and Martin on "Tropical Climates," to which work I am indebted for the following tabular statements.

They were found among the stores amassed by the labours of the Municipal Committee, a most zealous, intelligent, and indefatigable body, whose Report contains a vast fund of information on the vital statistics of Calcutta.

Mortality among all Classes for 20 Years. For Natives 5 Years.

Years.	Protestant Burials.	Catholic ditto, D. Rozario.	Catholic ditto, Botakiana.	Greeks.	Armenians.	Indo-Armenians.	Native Christians.	Mahomedans.	Hindoo.	Native Deaths in 5 Years.
1817....	216	313	169	4	10	3	....	....	....	....
1818....	272	211	159	2	20	3	....	....	....	....
1819....	275	284	158	....	23	3	....	....	....	....
1820....	281	282	136	....	17	1	....	....	....	....
1821....	246	277	172	....	16	3	....	....	....	....
1822....	324	294	140	....	16	2	....	....	....	....
1823....	270	277	156	....	10	2	....	....	....	....
1824....	278	282	188	....	21	1	....	....	....	....
1825....	297	285	154	1	12	10	....	....	....	....
1826....	275	309	145	2	19	17	....	....	....	....
1827....	254 + 11	308	174	....	15	16	4	....	....	....
1828....	256 + 19	250	170	2	15	12	3	....	....	....
1829....	184 + 21	209	146	3	12	16	2	....	....	....
1830....	224 + 26	236	138	1	14	15	....	....	....	....
1831....	186 + 29	236	122	3	17	19	8	....	....	....
1832....	217 + 25	269	121	1	17	16	1	1,009	8,299	9,308
1833....	302 + 30	288	204	2	23	14	5	2,385	15,138	17,523
1834....	281 + 35	257	199	2	16	17	4	1,900	11,167	13,067
1835....	233 + 18	233	115	1	7	16	4	1,229	6,873	8,102
1836....	197 + 26	188	104	....	15	13	3	1,515	6,366	7,801
	5,068 + 240	5,288	3,070	24	315	199	34	....	....	55,881
	20 10	20	20	12	20	20	9			5
	253 + 24	264	153	2	15 $\frac{3}{4}$	10	3 $\frac{1}{2}$			11,176

Statement of the Average Rate of Mortality per Cent. among the Different Classes of Inhabitants in Calcutta, per Census and Table of Mortality.

Denominations.	Number of Inhabitants.	Total.	Average Mortality, per Annum.	Average Mortality, per Cent.
English	3,138	7,884	277	{ $3\frac{1}{2}$ 1 in 28
Eurasians.....	4,746			
Portuguese	3,181			
French	160	3,341	417	{ $12\frac{1}{2}$ 1 in 8
Western Mahomedans	13,677			
Bengal Mahomedans	45,067			
Moguls.....	527	59,622	1,607	{ $2\frac{3}{4}$ 1 in 36
Arabs	351			
Western Hindoos.....	17,333			
Bengal Hindoos	120,318	157,418	9,558	{ $6\frac{1}{2}$ $4\frac{1}{2}$ $6\frac{3}{4}$
Mugs	683			
Low Castes	19,084			
Armenians .....	....	636	25 $\frac{3}{4}$	
Native Christians.....	....	49	3 $\frac{1}{2}$	
Chinese .....	....	362		
Jews.....	....	307		
Parsees.....	....	40		
Madrassees .....	....	55		

The first product of this tabular statement, exhibits a striking difference of mortality of the English and Eurasians, and the Portuguese. While the mortality of the first is but $3\frac{1}{2}$ per cent. or 1 in 28, that of the latter is as high as $12\frac{1}{2}$ per cent. or 1 in 8.

It is accounted for from the difference in social condition of the Portuguese: they are a suffering race, subject to the endemic diseases of Bengal, while the English and Eurasians are in far more easy and prosperous circumstances, better housed, fed, and clad, and enjoy comfort and happiness in a very high degree compared with the Portuguese or their descendants.

The vast difference of mortality among the Hindoos and Mahomedans is equally striking. While the ratio of death is as $2\frac{3}{4}$ per cent., or 1 in 36, of the Musselmans, it is as high as $6\frac{1}{2}$, or 1 in 16, in the Hindoo section of society. It has been attributed to the greater proportion of infant life among the Hindoos. The same circumstance ought also to be taken into account, or be added to those already mentioned as influencing the rate of mortality among the Portuguese, and will assist in explaining the surprising difference in the average mortality between that nation and other portions of the foreign races residing in Calcutta.

It will be seen that there was, in all classes of the population, a considerable increase of deaths in the years 1833-1834. This great increase of mortality is referrible to the great inundation, which took place in October, 1833, which submerged the suburbs to the south and east, and encroached upon the streets of the city. Its subsidence was followed by a severe pestilence, in the form of a remittent fever, which

proved fatal both to Europeans and natives, during that and the following year.

The lesser mortality exhibited in the tables show that it had ceased to have a prejudicial effect on the general health of European and native portion of the population.

The mortality among the other sections of society, the Catholic, Greek, Armenian, Indo-Armenian, and native Christian, for the period of 20 years, is believed to afford accurate results.

The Chinese and Jews keep no account of their burials, and consequently there is no method of ascertaining the proportion of deaths among them; this is of little consequence, as they form but a fractional portion of the population of Calcutta.

From the most recent investigation into the general mortality of the population of Calcutta, exclusive of the suburban population, including a period of 12 years, that is, from 1832 to 1843 inclusive, it was found that the total number of deaths has been 132,551, that is, 11,045 per annum, or 5.11 per cent.

The average annual mortality among the Hindoos is 8,862, or about 5.6 per cent.; that of Mahomedans, 2,183, or exactly 3.7 per cent.

The entire native population, at this rate of mortality, may thus be said to undergo extinction and renewal once in 20 years.

A more satisfactory statement, in reference to the European residents, is made by Mr. James Prinsep. In 1830 he ascertained, and published in the *Gleanings of Science*, the burials in Calcutta of Protestant Christians from 1820, to show at that time that, although the European population must have greatly increased, yet the deaths had not augmented; and now that the same population is acknowledged to have increased very materially, yet there has not been, during the last 20 years, any increase in Protestant burials.

For the purpose of remedying and wiping away the reproach to which the insufficiency of medical relief to the numerous indigent inhabitants exposed the more wealthy residents of Calcutta, and collect statistical information regarding their sanitary condition, the Government, in 1837, appointed a Committee to make inquiries into the causes and prevalence of disease, and to report upon the expediency and utility of erecting a fever hospital in Calcutta.

The Report of this Committee was published in Calcutta *in extenso*, and affords ample details in reference to the drainage, ventilation, supply of water, and other matters affecting the health of the population of Calcutta, and contains the only evidence procurable in reference to the number of sick, the extent and mortality of the most prevalent diseases.

The Committee was composed of Europeans and natives of the greatest intelligence and rank in the community, who took an interest in the objects of their appointment, and executed their commission with great zeal and ability. Desirous of rendering their Report as complete as possible, and of acquiring full and accurate information on the several subjects subordinate to their commission, the Committee subdivided themselves into sub-committees, and, under the sanction and permission of Government, obtained the co-operation of those most capable of aiding them in their inquiries. The Report of this Committee is the collected evidence of some of the most intelligent engineer and medical officers resident in Calcutta, or in the Service.

From this Report I propose to extract the evidence bearing upon the subject of the present inquiry, the causes of sickness and mortality of the capital of British India.

There is no city in the world which contains within itself more numerous or deleterious agents prejudicial to the health and life of the inhabitants, than Calcutta.

The extreme insalubrity of Calcutta in the earlier period of its occupancy by Europeans is proved by the statement of Captain Hamilton, who affirms that in one year there were 1,200 English, inclusive of military servants of the Company, private merchants, and seamen, and before the beginning of January of the succeeding year there were 460 burials. In more recent times it was the custom of the European inhabitants to meet on the 15th of November of each year to congratulate each other on their escape from the annual mortality.

The Committee refer in their Report to the present condition of that portion of the city inhabited by Europeans, in strong contrast with the former state, to prove what may be done to render one of the worst known localities habitable; and to the native part of the town, in proof that Captain Hamilton's picture of the insalubrity of Calcutta was not overcharged.

There has been considerable improvement in the state of the general health since the period referred to, and the representation of the danger to the health and life of Europeans is no longer applicable to this division of the community, yet the prevalence of disease among the lower classes is very striking.

This important change in the sanitary condition of the population is attributable to the clearing away of the jungle, and other precautionary measures; and with greater attention and activity in taking and following out these, there is ample ground for hoping that the health of the city may be very much ameliorated.

The most prevalent diseases among the inhabitants of Calcutta, and the most fatal, are bilious or continuous remittent and intermittent fevers, enlargement of the spleen, diarrhœa, dysentery, dyspepsia, small-pox, and cholera.

Of these the bilious and remittent fevers are very fatal, and always dangerous; and the intermittent, though not immediately accompanied by risk or danger to life, is not less destructive by inducing enlargement of the spleen, diarrhœa, dysentery, and dropsy.

Of the consequences of intermittent fever the most fatal complication, and which may be viewed as an endemic of Bengal, viz., enlargement of the spleen, is most common and most fatal. A very large portion of the native population is subject to this form of disease, which in its turn renders them more prone to recurrence of agueish attacks on any irregularity in diet, or exposure to the weather. This enlargement of the spleen is either rapidly fatal by its complication with diarrhœa or dysenteric purging, or more slowly and progressively, but surely destructive, by inducing anasarca or dropsy. Another frequent consequence of intermittent fever is dyspepsia, often consecutive or contemporary with enlargement of the spleen. Dyspepsia is often to be met with as a primary disease; so common is this form of complaint, that it has been stated "that nearly two-thirds of the native population in Calcutta are subject to dyspepsia."

Though this is not a fatal disorder, as it is productive of general debility, it predisposes to other forms of disease, and none more frequently than to fever and its sequences, diarrhœa and dysentery.

A very large proportion of the population of Calcutta are subject to rheumatism. This malady is very general throughout India, both in the lower and upper provinces, and among all classes. It annually incapacitates a large number of the native army; more men are invalidated for this form of disease than from any other. It may be conceived that rheumatism, a disease occasioned by repressed perspiration, was a disorder of temperate regions or high latitudes, where atmospheric changes are great and sudden, but the inhabitants of Bengal are very prone to this disorder from a variety of causes independent of of atmospheric vicissitudes. Of these the most influential are insufficiency of clothing, and the universal custom of bathing during the whole year, and at all seasons, common to the Hindoos. On the banks of the river, at sunrise, during the year, crowds of both sexes, and all ages, may be seen performing their daily ablutions in conformity to general usage, or in obedience to Brahminical prescription, in the cold as well as hot season, shivering in the muddy stream, or wending their way home with dripping garments, which they permit to dry upon them—a practice than which nothing is more calculated to induce rheumatic disease—especially in subjects whose cuticular discharge is larger and perspiratory process more active than in the natives of colder regions or higher latitudes. Accordingly, as has been stated, rheumatism is very common among them, incapacitating a very large portion of the labouring classes from following their usual avocations, or earning their daily bread.

Insufficient clothing is another very obvious cause of susceptibility to rheumatic disease among the lower classes of natives. From usage and indigence they make little or no change in their clothing throughout the year: it consists of light white cotton cloth for the men, and the same material, dyed of various hues, for the women; this clothing, however appropriate for the hot, is insufficient for the rainy and cold seasons. This inadequate protection of the person from the changes of the season and weather is a very general source of the frequency of more fatal complaints, as diarrhœa and dysentery, which annually sweep off numbers of the population of Bengal. The severity of the cold in Hindostan obliges the inhabitants to make a more seasonable addition to their clothing during the rainy and cold seasons, and to substitute the blanket or padded cotton dresses for the lighter covering of the hot months, a custom which will explain the greater immunity from rheumatic diseases enjoyed by the natives of the upper over the inhabitants of the lower provinces of India.

The town of Calcutta is, for the purposes of police superintendence, partitioned into four nominal divisions; each division is further subdivided into small police stations, called Thannahs, of which there are altogether about thirty-six. This explanation is necessary to understand the estimate of the extent of sickness and mortality computed by one of the most intelligent witnesses examined by the members of the Municipal Committee, and which is adduced as the most accurate obtainable. The extent of sickness among the native population of Calcutta, including Bengalees, Mahomedans, Hindus-

tanees, and Eurasians, is estimated by the intelligent native practitioner above alluded to, to be during the most unhealthy seasons of the year—that is, from August to November—at 500 in each Thannah, or a total of 18,000 of the population of the city. This estimate, though formed on the mere personal computation and experience of Muddoosodeen Gupto, a native resident practitioner, possessing the confidence of Europeans in his trustworthiness, and enjoying a high professional reputation and practice among his countrymen, is confirmed by Mr. Martin, whose opinion, from his position as surgeon to the native hospital, and large practice among the better classes of natives, is entitled to great weight. Mr. Martin believes this estimate, large as it is, understates the actual existence or prevalence of disease, even during the most healthy seasons of the year, and consequently greatly underrates it during the most unhealthy. He further states that, though conjectural, it is probably as close an approximation to accuracy as is attainable in the absence of all statistical records.

This estimate is also confirmed by the opinions of other professional men having the largest practical experience of the extent of disease among the native residents of Calcutta, who, though unable to offer precise grounds for their opinion, do not believe the above estimate exaggerated.

Of the great prevalence of disease among the natives, one of the most startling facts in reference to the condition of the younger part of the community is deposed to by Muddoosodeen Gupto, “that he does not see in the town of Calcutta any children that are in perfect health.” This statement is too inconsiderately made, but serves to show how general disease must be among this class of the people, when a statement declaring all the children of a population to be diseased is made by so respectable a witness, and recorded by the members of the Committee. It derives some countenance, however, from the testimony of the late Mr. Reid, a gentleman in charge of one of the dispensaries for affording medical relief to the natives, who states that one-fourth of native children are affected with one form of disease, viz., enlargement of the spleen, the sequela of intermittent fever.

The year in India, as is known, is divided into the rainy, cold, and hot seasons, each including four months: the first July, August, September, and October; the second comprehending November, December, January, and February; while the remaining four months are grouped together under the hot season. It has been observed that the occurrence and subsidence of disease does not follow this division of the year; that August, September, October, and November, are considered the most unhealthy months, during which bilious, remittent, intermittent fevers, and dysentery prevail; that during the succeeding four months, including the cold or drying season, intermittent fevers, both primary and secondary, enlargements of the spleen and liver diseases, diarrhœa, dropsy, and various forms of dyspepsia, are common; that the hot season and beginning of the rainy, from March inclusive to August, is considered the most healthy, from the comparative absence of remittent and intermittent fevers and dysentery, though the last sometimes prevails in a severe form, and cholera and eruptive diseases, as small and chicken-pox, occasion the sickness and mortality of this portion of the year. The extent and severity of the diseases of the hot

season vary much, and are dependent upon the character of the season—the degree of heat, the seasonable setting in of the rains, and the quantity or fall of rain.

From the evidence contained in the Report of the Committee on the Fever Hospital, and municipal inquiry, it appears that fevers, including the idiopathic, bilious, remittent, and intermittent, occasion one-half the mortality either immediate or consequential.

Of the proportion of those who are attacked by the several severe forms of sickness enumerated above, it is calculated that 20 per cent. die during the rainy season, or most unhealthy months; that 5 per cent. more die in the four subsequent months, or cold season; and that of a large part of those that survive, very many have affections of the liver and spleen, the sure and certain causes of future, and not distant dissolution.

Among the poor, remittent and bilious fevers are very destructive: it is calculated that of this class one-fourth die, one-fourth recover, and one-half subside into intermittents, laying the foundation of future attacks, or leaving the sequelæ of this form of disease.

Small-pox and cholera prevail epidemically, and occasion no inconsiderable portion of the mortality among the population.

We have not any report of epidemic small-pox, prior to the history of the last epidemic of 1844, published by Government, and drawn up by Dr. Duncan Stewart, the present Superintendent of Vaccine Inoculation in Calcutta. We learn from it that the previous epidemics occurred in 1796, 1832-33, and 1837-38. The only notice we possess of that of 1796 is, that it has rendered its visitation memorable from its extreme fatality; and the information we have of the succeeding epidemics of 1832-33 and 1837-38, is collected from the registers of funerals, kept at the Ghauts and Ghoristans, and exhibited in the form of tabular statements of the numbers who fell victims during their prevalence; these tables afford the means of judging of their severity and fatality in relation to each other, and of their comparative fatality with other mortal diseases.

An abstract of the numbers of those who fell victims to the three last epidemic visitations of small-pox, were as follows. In 1832-33, the numbers of

Mahomedans.	Hindoos.	Total.
483	2,744	3,227

In 1837-8 there died of small-pox—

Mahomedans.	Hindoos.	Total.
161	1,612	1,773

and the numbers of the population carried off by the latest epidemic, that of 1844, were—

Mahomedans.	Hindoos.	Total.
1,239	2,021	3,260

From these tabular statements of the deaths among the natives from small-pox, it will be seen that the mortality from the last epidemic has been greater than the two preceding, and it is regarded as the most fatal recurrence of this exterminating disease since that of 1796, already mentioned as having left a deep impression of its fatality.

Another inference is unavoidable from a glance at this comparative

statement, remembering the stationary state of the population of the city, from 1832 to the present year, that the natives still pertinaciously hold aloof from the proffered boon of vaccine protection.

The general practice of vaccine inoculation among the European portion of the community, confers on them a considerable protection, though not complete immunity, from variolous infection. It is recorded that 240 Christians died by the latest epidemic, though of these it is not stated what proportion were Europeans or natives, or of these, if any, how many had been vaccinated. It is stated in other evidence, collected by Dr. Stewart, that the disease was severe and even fatal, in Europeans and Eurasians, who had been previously vaccinated in infancy.

Cholera, though it prevails epidemically, may be considered as an endemic in Bengal. Cases occur in every month of the year in Calcutta, both among the European and native residents, and at the change of the seasons, from the rainy to the cold, and from the cold to the hot months; at these periods there is the greatest range in the diurnal temperature, between the heat of midday and the cold of midnight. This is a very dangerous period for immigrants from Europe or the Provinces, numbers of whom annually fall victims to this desolating scourge.

When cholera occurs epidemically, it does so during the hottest period of the year, including the months of March, April and May. A few cases are met with about the middle of March; they increase in the next month, and attain their limit in May, and gradually become less frequent at the approach of the rainy season; and as the rains set in, the epidemic subsides and disappears, until the return of the hot season.

It is found from tabular statements, published by Mr. Martin, that the fatality of cholera is in direct ratio to the prevalence of heat, a fact that was previously unobserved. From the second of these tables it is seen that the deaths of Europeans from this scourge was more numerous in the month of May, than the aggregate deaths by cholera of all the other months, excluding those immediately preceding it, viz., March and April.

Table of Deaths by Cholera amongst the Native Inhabitants of Calcutta for Seven Years, from 1832 to 1838 inclusive.

	Hindoos.	Mahomedans.	Total.
In 7 Januarys	572	124	696
„ 7 Februarys	620	196	816
„ 7 Marches.....	1,873	439	2,312
„ 7 Aprils.....	2,707	482	3,189
„ 7 Mays	2,170	464	2,634
„ 7 Junes.....	615	217	832
„ 7 Julys	914	133	1,047
„ 7 Augusts	806	146	952
„ 7 Septembers	785	121	906
„ 7 Octobers	1,030	198	1,228
„ 7 Novembers	1,687	230	1,917
„ 7 Decembers.....	1,425	161	1,586
Total.....	15,204	2,911	18,115

Table of Admissions and Deaths from Cholera in each Month during 12 Years within the Presidency General Hospital, Calcutta.

	Total Admissions.	Total Deaths.
In 12 Januarys	28	11
„ 12 Februarys	8	5
„ 12 Marches	56	34
„ 12 Aprils	86	57
„ 12 Mays	268	125
„ 12 Junes	138	38
„ 12 Julys	32	6
„ 12 Augusts	37	18
„ 12 Septembers	10	5
„ 12 Octobers	49	27
„ 12 Novembers	59	32
„ 12 Decembers	32	14
Grand Total.....	803	372

This table is confirmatory of Mr. Martin's observation that cholera is progressive from the middle of March to June; and further shows that while the proportion between the Hindoo and Mahomedan population is but as $2\frac{1}{2}$ to 1, yet the ratio of mortality among the Hindoos is to the Mahomedans as $5\frac{1}{2}$ to 1.

With the view of ascertaining the comparative fatality of all diseases among the natives of Calcutta, Dr. Duncan Stewart procured translations of a large mass of the native records of funerals, kept at the Ghauts, so as to complete a total of 20,000 deaths.

This table was published in the Journal of the Calcutta Medical and Physical Society, but, as connected with the Statistics of Calcutta, is introduced here.

Abstract of Table showing the Cause of Death in 20,000 cases of Hindoo Mortality within the Town of Calcutta in the Years 1834, 35, 36, 37, 38, translated and calculated from the Records of the Ghauts, or Funeral Stations on the Hooghly.

Fevers.	Diseases of Digestive Organs.	Diseases of Pulmonary Organs.	Diseases of Nervous System.	Diseases of General System.	Accidents and Anomalous Diseases.	Total of each Sex.		Cholera.	Childbed.
Simple Intermittent Typhus Eruptive	Diarrhoea	Cough Asthma	Paralysis Epilepsy Tetanus	Rheumatism Gout Diabetes Dropsy Syphilis Leprosy	Death by Hanging, Drowning, Falling, Snake Bite &c.	Males.	Females.	Included in Diseases of Digestive Organs.	Included under head of Accidents, &c.
	Dysentery								
	Colic								
	Diseases of Rectum								
	“ Liver								
	“ Spleen								
6,160	6,044	792	233	361	309	12,347 7,653 Total 20,000		4,773	1,328

To prevent misconception regarding the number included under Deaths from "Childbed," an explanation is necessary. The casualties under this head include the deaths of children who have died within the month. Of the whole deaths under this head, 1,328, there are not less than 1,240 deaths of infants enumerated, and the actual mortality from Childbirth is not greater than 88.